

PATENT COOPERATION TREATY PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 26 JUL 2006

PCT

Applicant's or agent's file reference 649490C:LDP:GVR	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/AU2005/000445	International filing date (<i>day/month/year</i>) 30 March 2005	Priority date (<i>day/month/year</i>) 31 March 2004
International Patent Classification (IPC) or national classification and IPC Int. Cl. G06K 9/32 (2006.01) G06K 7/10 (2006.01) G06T 1/00 (2006.01)		
Applicant CANON KABUSHIKI KAISHA et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (*sent to the applicant and to the International Bureau*) a total of 5 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 31 October 2005	Date of completion of this report . 11 July 2006
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer Evan Sulcs Telephone No. (02) 6283 2442

Box No. I **Basis of the report**

1. With regard to the **language**, this report is based on:
- ☒ The international application in the language in which it was filed
- ☐ A translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3(a) and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages **1-61** as originally filed/furnished
- pages* received by this Authority on _____ with the letter of _____
- pages* received by this Authority on _____ with the letter of _____
- ☒ the claims:
- pages **62, 66, 68, 70**, as originally filed/furnished
- pages* as amended (together with any statement) under Article 19
- pages* **63** received by this Authority on **28 October 2005** with the letter of **28 October 2005**
- pages* **64, 65, 67, 69**, received by this Authority on **24 May 2006** with the letter of **24 May 2006**
- ☒ the drawings:
- pages **1/26 – 26/26** as originally filed/furnished
- pages* received by this Authority on _____ with the letter of _____
- pages* received by this Authority on _____ with the letter of _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. IV **Lack of unity of invention**

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has, within the applicable time limit:
- ☐ restricted the claims
 - ☐ paid additional fees
 - ☐ paid additional fees under protest and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ neither restricted the claims nor paid additional fees
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
- ☐ complied with.
 - ☒ not complied with for the following reasons:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are two inventions:

1. Claims 1-17, 19-22 and 24-26 are directed to a method, an apparatus and a computer readable medium comprising a computer program for measuring performance parameters of an image device/printer wherein a test pattern image is maintained thus comprising alignment features and image analysis features; imaging a test chart in order to form a second image wherein the test chart contains a representation of said test pattern image; registering said test pattern image and said second image using region based matching operating on said alignment features and measuring the performance parameters by analysing said image analysis features. It is considered that the configuration indicated above comprises a first set of "special technical features".
2. Claims 18, 23 and 27 are directed to a method, an apparatus and a computer readable medium comprising a computer program for analysing images thus comprising receiving first and second images with the second being a distorted version of the first image; labelling the pixels of the first images; determining distortion parameters for aligning the two images together; warping at least said pixel labels using these parameters and associating the pixel labels with the corresponding pixels in the second image wherein the labels provide information on a state of pixels in said second image before distortion. It is considered that the configuration indicated above comprises a second set of "special technical features".

Since the abovementioned groups of claims do not share either of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept.

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☒ all parts.
- ☐ the parts relating to claims Nos.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2005/000445

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-33	YES
	Claims	NO
Inventive step (IS)	Claims 1-33	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-33	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

Claims 1-33 meet the criteria set out in PCT Articles 33(2)-(4), because the prior art documents listed in the International Search Report (ISR) do not teach or fairly suggest a method of measuring performance parameters of an imaging device, said method comprising the steps of: maintaining a test pattern image, said test pattern image comprising alignment features and image analysis features; imaging a test chart using said imaging device to form a second image, said test chart containing a representation of said test pattern image; registering said test pattern image and said second image using region based matching operating on said alignment features; and measuring said performance parameters by analysing said image analysis features.

Furthermore the prior art documents listed in the ISR also fail to teach or fairly suggest a method of analysing images, said method comprising the steps of: receiving first and second images, said second image being a distorted version of said first image; labelling pixels of said first image with pixel labels; determining distortion parameters for aligning said first image with said second image; warping at least said pixel labels using said distortion parameters; and associating said pixel labels with corresponding pixels in said second image, wherein said labels provide information on a state of pixels in said second image before distortion.

The invention has industrial applicability in the field of imaging systems.